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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/029,189	12/20/2001	Richard S. Ohran	14113.26.1	5408
22913	7590	02/25/2004	EXAMINER	
WORKMAN NYDEGGER (F/K/A WORKMAN NYDEGGER & SEELEY) 60 EAST SOUTH TEMPLE 1000 EAGLE GATE TOWER SALT LAKE CITY, UT 84111			SONG, JASMINE	
			ART UNIT	PAPER NUMBER
			2188	6
DATE MAILED: 02/25/2004				

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/029,189

Applicant(s)

OHRAN ET AL.

Examiner

Jasmine Song

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 27 August 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-12, 14-21, 23-27 and 29 is/are rejected.
- 7) ☒ Claim(s) 13, 22 and 28 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 December 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>3 and 5</u> . | 6) <input type="checkbox"/> Other: _____ |

Detailed Action

1. Claims 1-29 are presented for examination.

Specification

2. The lengthy specification has not been checked to the extent necessary to determine the presence of all possible minor errors. Applicant's cooperation is requested in correcting any errors of which applicant may become aware in the specification.

Drawings

3. The drawings filed on 12/20/2001 have been approved by the Examiner.

Oath/Declaration

4. The applicant's oath/declaration has been reviewed by the examiner and is found to conform to the requirements prescribed in 37 C.F.R. 1.63.

Information Disclosure Statement

5. The information disclosure statement (IDS) submitted on 03/19/2002 and 08/27/2002. The submission is in compliance with the provisions of 37 CFR 1.97. Accordingly, the information disclosure statement is being considered by the examiner.

Claim Rejections - 35 USC § 112

6. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

7. Claim 11 is rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 11 recites the limitation "the act of applying the data blocks" in lines 3.

There is insufficient antecedent basis for this limitation in the claim.

Claim Rejections - 35 USC § 102

8. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

9. Claims 1-4, 7, 12, 20, 24-27 and 29 are rejected under 35 U.S.C. 102(b) as being anticipated by Ohran., U.S. patent 5,835,953.

Regarding claim 1, Ohran teaches that a computer system that includes a mass storage device that stores a plurality of data blocks (col.8, lines 26-39), a method of updating the data blocks while enabling a previous state of the mass storage device to be accessible (col.13, lines 35-39 and lines 59-62), comprising the acts of:

receiving a write request that is to overwrite an existing data block in the mass storage device with a new data block (col.13, lines 24-27);

prior to executing the write request, storing a copy of the existing data block in a preservation memory associated with the computer system and associating a time stamp (col.8, lines 55-58; col.17, lines 65-66 and Fig.7B) with the copy of the data block in the preservation memory (col.13, lines 63 to col. 14, lines 7 and col.19, lines 16-20);
and

executing the write request, such that the existing data block stored in the mass storage device is overwritten with the new data block (col.14, lines 5-7 and col.19, lines 18-20).

Regarding claim 2, Ohran teaches that the preservation memory comprises a volatile memory device (col.8, lines 58-61).

Regarding claim 3, Ohran teaches that the preservation memory comprises a portion of the mass storage device (col.8, lines 61-62).

Regarding claim 4, Ohran teaches that further comprising the act of creating a backup copy of the plurality of data blocks stored by the mass storage device prior to the act of receiving the write request (col.19, lines 16-20).

Regarding claim 7, Ohran teaches that further comprising the act of storing a sequence of existing data blocks in the preservation memory in response to one or more write requests (col.22, lines 54-56) that are to overwrite the existing data blocks at the mass storage device and associating a time stamp with each of the existing data blocks of the sequence (the flow chart of Fig.7A and 7B).

Regarding claim 12, Ohran teaches that further comprising the act of establishing a virtual device at the computer system (col.1, it is taught as primary system 12) that appears as if it contained the plurality of data blocks stored at the mass storage device in a state in which the plurality of data blocks existed at a previous point in time (Fig.7A, col.23, lines 16-31).

Regarding claim 20, Ohran teaches that a computer system that includes a mass storage device that stores a plurality of data blocks (col.8, lines 26-39), a method of establishing a virtual device (col.1, it is taught as primary system 12) that enables access to the plurality of data blocks as the data blocks existed at the mass storage device at a previous point in time (Fig.7A, col.23, lines 16-31 and col.13, lines 35-39 and lines 59-62), comprising the acts of.

storing a current version of the plurality of data blocks in the mass storage device (Fig.7A, col.22, lines 41-43);

maintaining, at a preservation memory associated with the computer system, copies of previous versions of data blocks that have since been overwritten at the mass

storage device in response to write requests (col.13, lines 63 to col. 14, lines 7 and col.19, lines 16-20), the previous versions of the data blocks being associated with time stamps specifying a chronological order (col.8, lines 55-58; col.17, lines 65-66 and Fig.7B) in which the data blocks were overwritten;

providing access to the current version and the copies of the previous version through a virtual device (Fig.6, step 112), wherein the virtual device, in response to read a particular data block as it existed at the previous point in time, determines whether to access the current version of the data block from the mass storage device or the previous version of the data block from the preservation memory (Fig.6, steps 114,116 and 118 and 120).

Regarding claim 24, Ohran teaches that the preservation memory comprises a portion of the mass storage device (col.8, lines 61-62).

Regarding claim 25, Ohran teaches that a computer system that provides access to data blocks as the data blocks existed at a previous point in time (Fig.7A, col.23, lines 16-31 and col.13, lines 35-39 and lines 59-62), comprising:

a mass storage device that stores a plurality of data blocks (col.8, lines 26-39) that can be overwritten in response to a write request (col.13, lines 24-27);

a preservation memory that receives and stores a copies of the data blocks that are to be overwritten prior to the write request being processed and that associates a

time stamp(col.8, lines 55-58; col.17, lines 65-66 and Fig.7B) with each said copy of a data block (col.13, lines 63 to col. 14, lines 7 and col.19, lines 16-20); and

a virtual device (col.1, it is taught as primary system 12) that provides access to a current version of the data blocks stored at the mass storage device and the copies of the data blocks at the preservation memory (Fig.6 and col.13, lines 35-39 and lines 59-62), wherein the virtual device, in response to read request specifying a particular data block as it existed at the previous point in time, determines whether to access a current version of the specified data block from the mass storage device or a copy of the specified data block from the preservation memory (Fig.6, steps 114,116 and 118 and 120).

Regarding claim 26, Ohran teaches that the preservation memory comprises a portion of the mass storage device (col.8, lines 61-62).

Regarding claim 27, Ohran teaches that the virtual device, from the standpoint of a data access program, appears as if it contained the data blocks as the data blocks existed in the mass storage device at the previous point in time (Fig.7A, col.23, lines 16-31).

Regarding claim 29, Ohran teaches further comprising means for creating a backup copy of the data prior to receiving the write request (col.19, lines 16-20).

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 5-6,8,10,14-16,18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohran., U.S. patent 5,835,953, in view of Midgley et al., U.S Patent 6,625,623 B1.

Regarding claims 6 and 8, Ohran teaches the claimed invention (independent claim 1), Ohran does not teach further comprising the act of restoring the plurality of data blocks stored at the mass storage device to a state in which the plurality of data blocks existed at a previous point in time using the sequence copy of the existing data block stored by the preservation memory. However, Midgley teaches that a restore process that will restore the version of a source data file that existed at one point in time or the version of a plurality of source data files that existed at a specific point in time (col.18, lines 39-58) using a sequence copy of the existing data files stored in backup system (col.18, lines 52-58). As taught by Midgley, a restore process that will restore the version of a source data file that existed at one point in time or the version of a plurality of source data files that existed at a specific point in time using a sequence copy of the existing data files stored in backup system has the advantages of greatly facilitating the retrieval of data from the backup server and allow a user to perform a time slice operation to restore the versions of files that existed at a particular moment in

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time (col.18, lines 47-50). It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the teachings of Midgley in the system of Ohran and have a restore process that will restore the version of a source data file that existed at one point in time or the version of a plurality of source data files that existed at a specific point in time using a sequence copy of the existing data files stored in backup system for the advantages stated above.

Accordingly, one of ordinary skill in the art would have recognized this and concluded that they are from the same field of endeavor. This would have motivated one of ordinary skill in the art to implement the above combination for the advantages set forth above.

Regarding claim 5, Ohran teaches that the act of creating the backup copy is conducted when the plurality of data blocks represent logically consistent data (col.6, lines 5-8 and col.25, lines 51-55).

Regarding claim 10, Ohran and Midgley teaches the above invention claim 8, Midgley further teaches that the act of restoring comprises the act of applying the data blocks of the sequence of existing data blocks stored in the preservation memory to a current version of the plurality of data blocks stored at the mass storage device in reverse chronological order (col.18, lines 52-58).

Regarding claim 14, Ohran teaches that a computer system that includes a mass storage device that stores a plurality of data blocks (col.8, lines 26-39), a method of restoring the data blocks of the mass storage device to a previous state, comprising the acts of.

iteratively (Fig.7A and Fig.7B, from T0 to T2) performing the acts of.

receiving a write request that is to overwrite an existing data block in the mass storage device with a new data block (col.13, lines 24-27);

prior to executing the write request, storing a copy of the existing data block in a preservation memory associated with the computer system and associating a time stamp (col.8, lines 55-58; col.17, lines 65-66 and Fig.7B) with the copy of the data block in the preservation memory (col.13, lines 63 to col. 14, lines 7 and col.19, lines 16-20); and

executing the write request, such that the existing data block stored in the mass storage device is overwritten with the new data block (col.14, lines 5-7 and col.19, lines 18-20).

experiencing a data corruption event whereby at least one of the plurality of data blocks stored in the mass storage device becomes corrupted (col.15, lines 45-47);

Ohran does not teach further comprising restoring the data blocks of the mass storage device to a previous state by applying the copies of the existing data blocks from the preservation memory to the plurality of data blocks of the mass storage device until the previous state is obtained. However, Midgley teaches that a restore process that will restore the version of a source data file that existed at one point in time or the

version of a plurality of source data files that existed at a specific point in time (col.18, lines 39-58) using a copy of the existing data files stored in backup system (col.18, lines 52-58). As taught by Midgley, a restore process that will restore the version of a source data file that existed at one point in time or the version of a plurality of source data files that existed at a specific point in time using a copy of the existing data files stored in backup system has the advantages of greatly facilitating the retrieval of data from the backup server and allow a user to perform a time slice operation to restore the versions of files that existed at a particular moment in time (col.18, lines 47-50). It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the teachings of Midgley in the system of Ohran and have a restore process that will restore the version of a source data file that existed at one point in time or the version of a plurality of source data files that existed at a specific point in time using a copy of the existing data files stored in backup system for the advantages stated above.

Accordingly, one of ordinary skill in the art would have recognized this and concluded that they are from the same field of endeavor. This would have motivated one of ordinary skill in the art to implement the above combination for the advantages set forth above.

Regarding claim 15, Ohran and Midgley teach the above invention claim 14, Midgley further teaches that the reverse chronological order is identified using the time stamps associated with the copies of the existing data blocks (col.18, lines 39-58).

Regarding claim 16, Ohran teaches that further comprising the act of creating a backup copy of the plurality of data blocks stored by the mass storage device prior to iteratively performing the act of receiving a write request (col.19, lines 16-20).

Regarding claim 18, Ohran teaches that the iteratively performed act of storing a copy of the existing data block is performed on the data block level and independent of any file structure associated with the mass storage device.(col.13, lines 63 to col.14, lines 7)

Regarding claim 19, Ohran teaches that the plurality of data blocks represent data stored in specified sectors of the mass storage device (col.8, lines 40-45).

12. Claims 9,11,17,21 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Ohran and Midgley, and further in view of Reasoner et al., U.S. Patent 5,608,684.

Regarding claims 9,11,17,21 and 23, Ohran and Midgley disclosed the claimed invention as shown above, Ohran and Midgley do not teach that experiencing a data corrupted event, wherein the act of restoring the plurality of data blocks is conducted to restore the plurality of data blocks to obtain non-corrupted data which is more recent than the backup copy, whereby one or more current version of a data block represents corrupted data, and the plurality of data blocks as the data blocks existed at the mass storage device at a previous point in time represents non-corrupted data.

However, Reasoner teaches that experiencing a data corrupted event (col.2, lines 19-24), wherein the act of restoring the plurality of data blocks is conducted to restore the plurality of data blocks to obtain non-corrupted data (col.2, lines 39-49) which is more recent than the backup copy (col.2, lines 46-47), whereby one or more current version of a data block represents corrupted data, and the plurality of data blocks as the data blocks existed at the mass storage device at a previous point in time represents non-corrupted data (col.2, lines 45-56).

As taught by Reasoner, the storing process includes restore the plurality of data blocks to obtain non-corrupted data which is more recent than the backup copy, whereby one or more current version of a data block represents corrupted data, and the plurality of data blocks as the data blocks existed at the mass storage device at a previous point in time represents non-corrupted data have the advantages of completely eliminates the use of a battery as a source of backup power to volatile RAM, also, achieving greater circuit stability (col.2, lines 56 to col.3, lines 9). It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the teachings of Reasoner in the system of Ohran and Midgley and have a restore process that restore the plurality of data blocks to obtain non-corrupted data which is more recent than the backup copy, whereby one or more current version of a data block represents corrupted data, and the plurality of data blocks as the data blocks existed at the mass storage device at a previous point in time represents non-corrupted data for the advantages stated above.

Accordingly, one of ordinary skill in the art would have recognized this and concluded that they are from the same field of endeavor. This would have motivated one of ordinary skill in the art to implement the above combination for the advantages set forth above.

Allowable Subject Matter

13. Claims 13, 22 and 28 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Ohran	US 6397307 B2
Micka et al	US 6189079 B1
Sekido	US 6219752 B1
Bergsten	US 6073209
Bergsten	US 6282610 B1
Bergsten	US 6360306 B1
Bergsen	US 6363462 B1
West et al	US 6131148
Kern et al	US 6463501 B1

15. When responding to the office action, Applicant is advised to clearly point out the patentable novelty which he or she thinks the claims present in view of the state of the art disclosed by the references cited or the objections made. He or she must also show how the amendments avoid such references or objections. See 37 C.F.R. 1.111 (c).

16. When responding to the office action, Applicants are advised to provide the examiner with the line numbers and page numbers in the application and/or references cited to assist examiner to locate the appropriate paragraphs.

17. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jasmine Song whose telephone number is 703-305-7701. The examiner can normally be reached on 8:00-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Mano Padmanabhan can be reached on 703-306-2903. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9306.

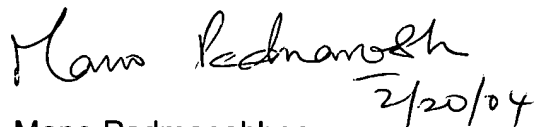
Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-305-3900.

Jasmine Song



Patent Examiner

February 20, 2004



Mano Padmanabhan

Supervisory Patent Examiner

Technology Center 2100